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In the UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Vinod Philip

Application No. 10/733,740

Atty. Docket No: 2003P15291US

Filed: 12/11/2003

Title: REPAIR OF ZIRCONIA-BASED THERMAL BARRIER COATINGS

Examiner: Katherine A. Bareford

Art Unit: 1762

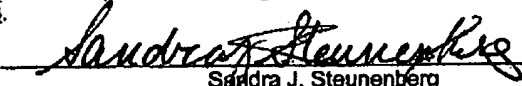
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APPELLANTS REPLY BRIEF

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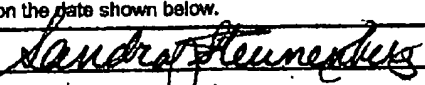
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	Filing Date	12/11/2003	
	First Named Inventor	Vinod Philip	
	Art Unit	1762	
	Examiner Name	Katherine A. Bareford	
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PATENT
Attorney Docket No. 2003P15291US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Inventor:	V. Philip et al.)	
)	Group Art Unit: 1762
Serial No.:	10/733,740)	
)	Examiner: K. Bareford
Filed:	December 11, 2003)	

Title: REPAIR OF ZIRCONIA-BASED THERMAL BARRIER COATINGS

Commissioner For Patents
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APPELLANTS' REPLY BRIEF

Pursuant to 37 C.F.R. § 1.193(b), this Reply Brief is responsive to the Examiner's Answer mailed October 31, 2006. Appellants reply as follows:

Ground 1 – Section 112 Rejection of Claims 1-4, 6-12, 22, 23, 25 AND 26

The Examiner's Answer maintains that claims 1-4, 6-12, 22, 23, 25 and 26 are unpatentable under 35 U.S.C. § 112, para. 1, as failing to comply with the written description requirement for containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed term "unbound" to modify the phrase "homogenous mixture" at the time the application was filed. (Answer p. 16).

The Examiner has a very difficult burden when making and maintaining a 35 U.S.C. § 112, para. 1 rejection. MPEP 2163 provides that "there is a strong presumption that an adequate written description of the claimed invention is present in the specification as

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filed," citing Wertheim, 541 F.2d at 262, 191 USPQ at 96. MPEP 2161.01(III) further provides the Examiner "must. establish on the record a reasonable basis for questioning the adequacy of the disclosure to enable a person of ordinary skill in the art to make and use the claimed invention without resorting to *undue experimentation*," citing in re Brown, 477 F.2d 946, 177 USPQ 691 (CCPA 1973); In re Ghiron, 442 F.2d 985, 169 USPQ 723 (CCPA 1971).

Because the Examiner has failed to comply with the requirements of MPEP 2163.04 when making and maintaining the 35 USC 112, para.1 rejection, the rejection must be reversed. MPEP 2163.04 requires that:

In rejecting a claim, the examiner must set forth express findings of fact which support the lack of written description conclusion (see MPEP § 2163 for examination guidelines pertaining to the written description requirement). These findings should:

(A) Identify the claim limitation at issue; and

(B) Establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed.... When appropriate, suggest amendments to the claims which can be supported by the application's written description, being mindful of the prohibition against the addition of new matter in the claims or description.

Upon reply by applicant, before repeating any rejection under 35 USC 112, para. 1 for lack of written description, review the basis for the rejection in view of the record as a whole, including amendments, arguments, and any evidence submitted by applicant. If the whole record now demonstrates that the written description requirement is satisfied, do not repeat the rejection in the next Office action. If the record still does not demonstrate that the written description is adequate to support the claim(s), repeat the rejection under 35 USC 112, para. 1, fully respond to applicant's rebuttal arguments, and properly treat any further showings submitted by applicant in the reply.

The Examiner has not met at least two of the requirements of MPEP 2163.04.

First, the Examiner has failed to establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the

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application as filed. Instead, the Examiner only argues that col. 4 lines 7-9 of the original disclosure and original claim 1 explicitly state: providing a 'composite powder' that is mixed together to form a homogeneous mixture 'prior to spraying' and then spraying the 'composite powder', and therefore the application: (a) requires that the constituents must be 'held' or 'maintained' in a physical mixture prior to flame spraying using low velocity oxygen fuel gun, and (b) cannot otherwise indicate that the constituents are not 'held' or 'maintained' in the physical mixture. As explained in MPEP 2163(II)(2)&(3), the Examiner must review the entire application to understand how applicant provides support for the various features of the claimed invention and then determine whether there is sufficient written description to inform a skilled artisan that applicant was in possession of the claimed invention as a whole at the time the application was filed. It is improper for the Examiner to merely recite one selected portion of the disclosure without consideration of the entire disclosure. Since the Examiner has completely failed to provide reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the term "unbound" to modify the phrase "homogenous mixture" and also has not shown why such skilled artisan would need to resort to undue experimentation to make and use the claimed thermal barrier coating repair, the Examiner has failed to meet the requirements of MPEP 2163.04.

Second, the Examiner has failed respond to Applicants' rebuttal arguments that the disclosure suitably conveys that the inventors had possession of the modifying term 'unbound' because page 4, lines 7-9 of the specification in fact explains: "The two constituents are mixed together to form a homogenous mixture prior to spraying, such as by ball mixing or by wet chemical mixing." Those skilled in the art would readily understand that the inventors had possession of the knowledge that the powder constituents can be unbound since ball mixing and wet chemical mixing produces a powder whose constituents are unbound. Moreover, the specification discloses that, after mixing, when the composite powder is sprayed, the lower melting temperature constituent 16 is at least partially melted by the spray process and resolidifies to form splats 26 that surround and encase the particles of the high melting temperature material 14. Page 5 lines 9-17. Thus, Applicants unquestionably appreciated that the LVOF process binds the mixed powder into positively linked constituents. The deliberate and intelligent choice to bind the constituents by the LVOF process, in of itself, evidences that

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Applicants appreciated that the constituents are unbound prior to the LVOF process. Instead of responding to Applicants' detailed and well reasoned rebuttal arguments as to how and why the disclosure itself evidences that a person skilled in the art at the time the application was filed would have recognized that the inventor was in possession of the term "unbound" to modify the phrase "homogenous mixture, the Examiner merely equates the term "maintained" with "held" and reiterates the same summary conclusion. Since the Examiner has completely failed to respond to Applicants' rebuttal arguments," the Examiner has failed to meet the requirements of MPEP 2163.04.

Grounds 2-9

Applicants disagree with the Examiner's grounds of rejections 2-9, as provided in Applicants previously filed Office Actions and expanded upon in Applicants Appeal Brief.

Conclusion

For the reasons provided in Applicants previously filed Office Actions, expanded upon in Applicants Appeal Brief, and highlighted in this Reply Brief, Applicants respectfully submit that the rejections set forth in the final Office Action are inapplicable to the pending claims. The honorable Board is therefore respectfully requested to reverse the final rejection of the Examiner and to remand the application to the Examiner with instructions to allow the pending claims. Please grant any extensions of time required to enter this paper. Please charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Acct. No. 19-2179.

Respectfully submitted,

Dated: 11/29/06

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